Encrypting and decrypting territories: training, education and communication within landscapes

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Abstract

This chapter discusses how education and training are key elements in the process of building shared landscapes, i.e., shared convergent perceptions of the territories. While learning leads to syncretic landscapes and language alone generates segregated encrypted landscapes, education combines the two and allows for critical foresight and positive decrypting of meanings within ever widening frameworks: education is, for this reason, a main tool of globalization and of the invention of humankind, beyond the ethnic divides. The strength of education is, yet, its main weakness: the empowerment of individuals through education is an abstraction process, which allows them to create non-existing entities that may be transformed and adapted to completely new contexts (innovation is one such example). When doing so, education breaks the tie that kept the perception of humans and their environment as being equal: education demonstrates the human capacity to overcome material restrictions, potentially creating anthropocentric, and not merely ethnocentric, landscapes.

Several questions arise: Will humans alienated from their tangible concrete engagement in causal sequences be capable of fully developing abstract advance knowledge? Since universal education is no longer required to maximise economic profits, will it remain or will it be questioned and abandoned? And, if not, will sustainability be possible? Should education be primarily guided through debating values or through experimenting technologies and revisiting their histories?

Key-words

Territory – Education – Communication – Landscape – Humanities

In what we show ourselves we are ignored

The abyss from soul to soul cannot be bridged
by any skill of thought or trick of seeming.

Unto our very selves we are abridged
when we would utter to our thought our being.

We are our dreams of ourselves souls by gleams,
and each to each other dreams of others' dreams.

F. Pessoa 1918, English Poems

A humanities approach to territories

One dramatic consequence of the growing divide between sciences and humanities has been their global weakening, leading to a pragmatic empire of technological solutions deprived from meaning and global reasoning (Böhme & Stehr 1986; Oosterbeek 2011). Several in-use notions illustrate this dangerous divide, such as “solutions” (ignoring

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contradictions and dilemmas), "technology" (ignoring purpose), "memory" (ignoring history), "democracy" (ignoring awareness and alienation), "theory" (ignoring *praxis*) or "education" (ignoring content – Oosterbeek 1999).

The consequences are to be found in all spheres of activity, and certainly in major recognized global challenges for which nonintegrated solutions are recurrently experimented with limited or no results, concerning climate change (oscillating between denial of change and overestimation of anthropic impact), migrations (without linking these to the nature of existing borders), identities (reducing cultural ethnocentric conflicts to multilateral dialogue, without facing the challenges of building a united humankind for the first time ever), understandings of the past (in absence of an effort to build a comprehensive global human past, instead of a collection of local and regional fragmented histories), or others.

At a global level, the main consequence has been to lack an understanding of cultural complexity, seeking the same solutions, rooted in social engineering and technology, for different types of inequality, exclusion and conflict. Part of this misunderstanding has a major impact in the education and training strategies, largely still oriented towards a 20th century profile of new jobs being created in relation to new economic activities and for a decolonization urging agenda. While these remain relevant, account has to be made of the re-design of social processes in the North-South former divide (with a much more complex set of intra-regional divides and the emergence of primarily cultural divides and disruptions – Hellier 2012), of the current nature of the economic process (which is no longer generating significant numbers of jobs related the mechanisms of economic growth) and of the cognitive implications of the digital era (diminishing use of muscles and namely of the brain to achieve different goals).

The conceptual framework within the UNESCO 2015 Convention on the Protection and Promotion of the Diversity of Cultural Expressions (UNESCO 2015), focusing on four pillars, is an example of this. It focuses on the support to sustainable systems of governance, on achieving balance flow of cultural goods and mobility of artists, on integrating culture in development frameworks, and on promoting human rights and fundamental freedoms. Creativity and its dissemination are paramount, also linked to technology. Artists and gender are considered, and creative industries and culture are focused in relation to economy. But there is insufficient consideration of the relevance of culture in perceiving these issues differently!

Also the 2016 World Social Science Report, addressing inequality, stresses the impact of inequality in sustainability and considers seven dimensions of the former (economic, social, cultural, political, spatial, environmental and knowledge-based) and, when detailed, mentions education, discriminations (of gender, ethnicity or religion), disparities of resources (among regions and urban or rural areas), and different access and contributions to different sources and types of knowledge (ISSC et al, 2016). But there is limited consideration of the cultural dimension of inequality in education (following Bourdieu and Passeron, 1977), when compared to the social dimension of it.

Facing the global merger of economies and societies, but also the trend towards segregating new identities and cultural networks, the challenge of governance is indeed to create a reflexive humankind for the first time (Oosterbeek, 2016) and to reorganize the territorial sociocultural matrices that provide coherence, cohesion and awareness to human groups (Oosterbeek, 2017), understanding that these are, primarily, communication networks. This means that the governance of such networks, i.e., the governance of territories, has communication as its backbone. It is largely for this reason that we advocate a cultural integrated landscape management, as opposed to a merely technical, social engineering and technology driven, model of integration of territories: "cultural" because it must not only take into account cultural diversity, but to find in it a major strength and not a problem to overcome; "landscape", because the integration relates to the cultural perceptions of the territories values, and not just to the territories themselves (which, by nature, are already integrated in a systemic way).

Education and training are key elements in the process of building shared landscapes, i.e., shared convergent perceptions of the territories. Words do not only condition the extension of the ideas to consider, they primarily structure the hierarchy of the possible ideas and, moreover, the vision that will guide actions (Derrida 1967). For example, the acronym "STEM" (Science, Technology, Engineering, Mathematics), too readily popularized worldwide, expresses the technological approach to solutions and the avoidance of humanities and facing dilemmas or contradictions. Even when, occasionally, this acronym is transmuted into "STEAM" (Sousa & Pilecki 2013), the A standing for Arts (or creativity), the humanities dimension is carefully left out, in a possibly unconscious but nevertheless effective way to foster a unique monolithically understanding of sustainability (one that values economic growth and environmental protection, but fails to understand human anguishes and divides).

This is also why within the operational framework of cultural integrated landscape (Oosterbeek, 2014b), the dimensions of sociocultural matrix organization and institutional articulation are comprised between a set of education and training activities and an overall permanent communication programme.

The reason why focus on landscape management is of primeval importance for the humanities is because this is a dimension of life that engages all humans alike, with a strong tangible dimension and convening a transdisciplinary framework of reference rooted in *praxis*. While actual management projects are guided by cultural integrated landscape management theoretical assumptions, those projects feed-back into the theory, leading to adjust it. At the same time, the positive consequences of a cultural integrated landscape management (CILM) of specific territories allow for comparison and to disseminate by example new methodologies.

The specificity of CILM, as a humanities driven methodology, lies in the fact it also uses sociology, law, economics and natural sciences for dealing with problems, but is rooted in a wider multidisciplinary approach involving archaeology (and the didactics of tangibility and hand-made technologies and techniques related reasoning), anthropology (and the understanding of cultural process, mechanism of convergence or fission), history (as a rational construction of common past and not a mere collection of dividing memories), geography (positioning actors in relation to spaces, distances, processes and actions), literature (building narratives and insights), psychology (of individuals and groups in their cultural contexts) and other approaches framed in the archipelago of philosophy, through communication, education and training (Castells 2010; Scheunemann & Oosterbeek 2012; Crowley 2016).

One major challenge for CILM, which requires a strong tangible dimension that exercises the motricity of individuals and their brains, is to cope with the ongoing digitalization of all procedures (Oosterbeek 2014a). As mentioned by Fiorillo (2015, p. 123), "(…) technologies of communication provide the material basis for global integration and favour the growingly faster exchange of information between individuals, corporations and institutions. Despite the contradictions and inequalities that emerge in this context, the information society characterizes a new way of production of social relations, based on flexibility and promotion of creative capacities. This field of research has the same complexity of environmental concerns, since both require the understanding of multiple economic, historical and cultural variables, for a better approach to the global/local interrelations".

But, beyond the research on such complexity, the question remains on how to foster tangible learning and reasoning experiences (which are crucial to develop critical reasoning and non-alienated citizens, themselves the basis of dynamic and non-despotic societies), when the experience of any child is that a much lesser effort may lead to the satisfaction of perceived needs using digital resources, in a context of cognitive changes (Vasile 2012)?

The scope of education for and within cultural integrated landscape management

The need to integrate and prepare younger generations into adulthood generated, from the dawn of humankind, the need for training (Peretto 2016). Such a mechanism is to be observed in many other animals, not even in mammals alone, but is already quite complex in the group of "Big Apes", such as chimps. Several record demonstrate that adults train their children making them watch certain sequences of gestures and then try by experiment. Training is a mixture of repetition and creation, though, since the mastering of a given sequence is only achieved when the learner finally understands the complex relation between intention, gesture and choice of materials. Tangibility is, therefore, crucial in training, since this implies concrete intellectual operations focused on materials.

The landscapes constructed through training are perceived as tangible extensions of human action but heavily dependent on the "resistance" of materials, thus leading to perceive the territories as a matrix of shared values. Many traditional approaches to the environment build from this approach (Duarte 2017).

Human evolution led towards a process of neoteny, or extended learning process, through which culturally acquired competences became increasingly more relevant (Gould 1977). Thus, the need to develop a complex double articulated language, through which slight changes in sounds entail major changes in meanings, emerged as a response to growing complexity of behavioural attitudes: assigning names and setting propositions within a flow of classificatory approaches to the context (Bourdieu 1996).

Communication is largely based in this language process, even if it also uses other means, such as gesture or music. Part of the exercise consists in designing a code of access that certainly helps decoding messages but, moreover, establishes a protective frontier for each *ethos*: languages are, in this sense, powerful landscape builders, defining the scope of notions that shape the perceptions of territories of given human groups, while blocking access to the others, as the differential use of languages in colonial contexts demonstrates (Akujobi 2016). In this sense, languages are encrypting devices that consolidate and protect the universe of those within. Therefore, basic notions for human orientation and sense, such as space, time or cause, become culturally informed by language, and the presence or absence of words imply different understandings of what could be similar processes.

The differences between the Portuguese as spoken in Brazil and in Portugal are a good example of this. While often focus is put on the differences of graphic spelling of words (itself a perception that leads towards looking for a single unified spelling system), differences seat much more on the grammar structure and the use of verb tenses: while in Portugal sentences are usually expressed in the simple present (i.e., phrased in a way that focuses on the achievement of something), in Brazil preference goes to the present continuous (i.e., phrased in order to stress the process or the action, and not as much the final result). These two types of Portuguese relate, in fact, to two approaches to human behaviour and to agency. Much more complex are the required translations of key-words on sustainability (starting with the word "sustainable", which becomes "durable" in French, for instance, since "soutenable" would have a completely different meaning.

The ever-expanding number of morphemes and their combinations made education crucial. Education, beyond learning, may be understood as a process of generative and transformative acquisition of competences, i.e., a process through which the student learns not only the contents but, fundamentally, the mechanisms to generate and transform them, thus gaining critical rational competences and intellectual autonomy. While this may be considered the reason for the relevance of education in human evolution, formal and normalised education became relevant only when learning written language also became a need in the economic sphere. While an agriculture+manufacture+trade economy could rely on a limited number of educated people, industry and services, both depending on always changing new technologies, required an educative system that would enable all people not only to replicate learned-by-experiment gestures, but to face the challenge to take them in a flexible and transformative way, namely reading guidelines. Public school, but also conscious participatory society, result from this novel and recent process, itself closely related to the notions of democracy, freedom and modernity (Carlo 2009).

While learning leads to syncretic landscapes and language alone generates segregated encrypted landscapes, education combines the two and allows for critical foresight and positive decrypting of meanings within ever widening frameworks: education is, for this reason, a main tool of globalization and of the invention of humankind, beyond the ethnic divides. The strength of education is, yet, its main weakness: the empowerment of individuals through education is an abstraction process, which allows them to create non-existing entities that may be transformed and adapted to completely new contexts (innovation is one such example). When doing so, education breaks the tie that kept the perception of humans and their environment as being equal: education demonstrates the human capacity to overcome material restrictions, potentially creating anthropocentric, and not merely ethnocentric, landscapes. Paradoxically, it's this dimension that will allow for massive environmental destruction, since it "liberated" humans from any constraints.

Understanding the different scopes and the complementarity of training, education and overall communication, as a tripod to build dynamic cultural integrated landscape management approaches, is fundamental for sustainability and for seven priorities of urgent change:

1. from problems into dilemmas (understanding that adaptation is not about solving all problems, which eventually will be solved, but to make adequate choices in face of given contextual constraints in each moment – Gudauskas, 2016);
2. from alienation into critical knowledge (i.e., involving the majority of the population in the process of producing new knowledge and not to merely reproduce it – Bruner, 1974);
3. from social ranked networks into sociocultural collaborative networks (based on vicinity or other references – Oosterbeek, 2017);
4. from tolerance into appreciation, i.e., from the acceptance of the existence of others that are still regarded as mainly different and, occasionally, inferior, into the understanding that each culture completes gaps in the other cultures, thus being a need to cherish and not a difficulty to tolerate (Ricoeur, 2000);
5. from depression (economic and psychological) into global understanding, rooted in academic knowledge (Werlen, 2016);
6. from activism into making sense of things and actions (Latour, 1996); and
7. from sciences and humanities apartheid into integrated adaptive responses, moving from sensitive and operational knowledge into formalised and anticipatory knowledge, fostering and focusing imagination, nurturing the integration of gesture (techniques) and creativity (arts), promoting diversity and critical reasoning and improving participation and democracy.

Two interlinked processes challenge the tripod mentioned above, both related to the new digital era. First, digitalization is transforming the requirements of gestures related to knowledge sequences and their achieved results (Carr 2011); less movements are required to obtain results, and similar movements (e.g., to press a key) lead to very different results (e.g.

pressing a key in an ATM machine, in a parking lot or in a drinks dispenser machine). This diminishing of gestures tends to reduce the stimulus of the brain, disrupting causal nexus and complex reasoning sequences. Since training remains at the basis of education, concrete intelligence preceding and enabling, later, the full development of abstract knowledge through education (Piaget 1954), one first question is: will humans alienated from their tangible concrete engagement in causal sequences be capable of fully developing abstract advance knowledge? For instance: once training to focus concentration in one single task (e.g. holding a pencil to write down a text or to make basic arithmetic calculations) is abandoned (due to the use at very early ages of computers that automatically correct spelling and make very fast calculations), will poetic or algebraic mindsets still be accessible to most?

A second challenge relates to changes in the economy and the replacement of humans by machines and, also, of working written instructions by oral digital ones. This new trend in the digital economy, which is destroying most jobs, from car assemblers to software design engineers, renders useless the universal education. Decreasing levels of literacy and the the re-emergence of "post-truth" are expressions of this trend. Since universal education is no longer required to maximise economic profits, will it remain or will it be questioned and abandoned? And, if not, will sustainability be possible (Stiglitz 2012)?

Is there a future for universal education in the context of the third global depression and of the digital world?

Current global debates experience major disruptions due to a growing tension between the global needed integration of the social sphere (alongside economy) and the institutions designed to protect non-global networks of production, trade and management. The later build from the reification of cultures, as discrete entities, preventing their transformation through a double mechanism of past cultural diversity extinction (since reification requires simplification) and denial of new cultural diversity recognition (since this tends to emerge from global trends). On occasions, unexpected agents of such process may be naïve well intentioned approaches, as uncritical consideration of intangible heritage.

While the digital dimension remains an opportunity to disconnect, the context is shaped by the crisis of sociocultural matrices and education policies have been captured by the concept of "education market", thus having been reduced to commodities (Schwartzman 2013).

Economies are integrated at a global scale, societies are linked at a global scale, contextual challenges are global and identities and cultures are structured in relation to global neighbours. Education serves the purpose of socialization within sociocultural dynamics that are, now, international and global. Since humankind evolves through integrative processes in which technologies are crucial, one main choice will be to put the accent in the participation in debates (or political perspectives, which require enlightenment, awareness, reinforced wider communication mechanisms rooted in critical education and extensive training) or in process of production of technologies fostering economic growth and environmental sustainability *per se* (achievable through expelling humans from economic decision mechanisms and aiming at some sort of eugenic sustainable development, as STEM strategies tend to do). And, thus, should education be primarily guided through debating values or through experimenting technologies and revisiting their histories?

Unless an ethical choice intervenes (Leonhard 2016), it would be an illusion to believe that participation, awareness and critical reasoning are requirements, in the short term, for strict economic growth and environmental preservation. But bridging technologies, arts and humanities, and fostering diversity of gesture, will allow for the using of digital resources to favour face-to-face interaction, meeting the seven changes mentioned above, promoting flexibility and critical reasoning, encouraging transformation through enhancing heritage and educating for values and cultures of peace through diminishing social and environmental gaps.

As a tool, the digital revolution, from archives to robotics, will challenge humans on how to deal with it. In the age when computers are learning emotions, the preservation of a strategy oriented towards critical reasoning through education and open communication will become a condition to make sure that in the future human bodies, and not robots, will be the best "humans", the one better capable of conceiving new landscapes and thus to manage territories in a more balanced and sustainable way.

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